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November, 1930

MEMORANDUM UPON A PROPOSED CENTRAL ORGANIZATION AT COAST
GUARD HEADQUARTERS FOR PERFORMING CRYPTANALYTIC WORK.

Liquor smuggling activities along the coasts of the United States are absolutely dependent upon the maintenance of systematic and reliable communications between the shore stations which direct the movements of the large supply vessels hovering outside the twelve mile limits and the speed boats that contact the supply vessels and land their cargo ashore. These communications can be conducted by means of only one agency, namely radio. Communications transmitted by this agency are subject to interception by governmental authorities and, realizing this situation quite thoroughly, the interests engaged in smuggling have from the first and are now employing more or less complex codes and ciphers.

The most promising point of attack that can be made in the effort to eliminate or curb to a minimum these smuggling activities would therefore consist in the systematic interception and solution of the communications exchanged between the cooperating smuggling vessels and the directing shore stations. In addition to the interception and solution of these communications there exists the very real possibility of locating by means of radiogoniometry or direction finding, the transmitting stations both ashore and afloat.

When a shore station is located, its operation can be eliminated by governmental action. The recent success of the CG-210 in locating three shore stations on the Atlantic Coast and their immediate seizure by Department of Justice agents has demonstrated conclusively the value of this type of work and

nothing further need be said in this memorandum concerning it.

For the past several years intercept activities maintained both by the Coast Guard and by other agencies concerned with the enforcement of the law regarding smuggling have yielded a very large volume of communications passing between shore stations and ships engaged in smuggling. With the extremely limited personnel available for work in connection with the solution of this intercepted traffic little has been accomplished compared with what might have been and still might be accomplished were an adequate and trained force available for solution activities. For the most part the smugglers use extensive code books which they usually compile or have compiled for them by code firms. From a technical point of view the solution of code messages is much more difficult and requires much greater time and effort than does the solution of ciphers. Moreover, in the case of code the mere breaking down of the basic system is only the beginning of the work, because, unlike cipher systems, the solution of one message discloses very little about the remaining messages. The solution of code is a long-drawn-out process, which must be continued throughout the life of the code, if all messages are to be read. It may be stated that every system employed by the smuggling interests has been solved but in no case has it been possible to read all of the messages in view of the large amount of labor involved and the lamentable lack of personnel to accomplish the work.

The purpose of this memorandum is to set forth the minimum personnel that would be required to conduct the work of a solution unit at these headquarters in such a manner as to collect as much information as can possibly be obtained from this source. This central unit would also function as a training office for warrant officers who would be assigned to headquarters for a

period of at least a year and who would in turn be sent to the field to take charge of a station under the supervision of the central unit.

The present section consists of but two persons, a cryptanalyst and a clerk. As a minimum there should be the following personnel:

	<u>Grade</u>	<u>Salary</u>	<u>Total</u>
Cryptanalyst in charge	P-4	\$4000	\$4000
Assistant cryptanalyst	P-1	2000	2000
One senior cryptographic clerk	CAF-6	2000	2000
One cryptographic clerk	CAF-4	1800	1800
Three asst. cryptographic clerks	CAF-3	1620	4860
			\$14,660

The specifications and requirements of personnel to fill these positions form the subject of a separate memorandum.

The expenditure of the foregoing amount of money in the manner outlined in solving secret communication systems would accomplish vastly more concrete results than many times that sum spent in equipping and maintaining Coast Guard vessels engaged in a more or less blind search for smugglers.

In the latter case it is almost purely a matter of accident if a Coast Guard vessel finds a speed boat making contact with a larger run-runner, or returning from such a contact. With a properly functioning unit for reading the Blacks' secret systems of communication, the Coast Guard vessels can be informed both as to time and place of contact. This known, the Coast Guard can first of all prevent the contact; or if they choose to allow the contact to be made, the Coast Guard vessel can then locate itself in such a way as to seize the returning liquor-laden speed boat, either within or without the twelve-mile limit; and lastly, with the approximate available landing points known, every effort can be exerted to prevent the landing. A concrete example is the message sent at 6 P. M. on September 20, 1930, giving 4 AR, a shore station, the location of GEE, the JOHN HAYES (1931).

CHE Y I B O G N W W F Y L O W F Y J E
W Y D H O W Y B E C W Y B U G W Y B F O

Plain text: The JOHN MANNING'S position now
42 miles South by East Fire Is-
land Light.

The shore station uses this information, then, to instruct the speed
boats from shore to proceed to the JOHN MANNING and load cargo.

Much can be accomplished through intercepted code messages, even where
the stations sending and receiving such traffic are so far away as British
Honduras and British Columbia. For instance, on September 29, 1930, the
shore station at Vancouver, B. C., operated by the Consolidated Exporters
Corporation, sent the following secret message which was to be relayed to the
rum-runner CORAZEL which operates along the Coast of the Gulf of Mexico:

H A W S E H A R R Y B O N E S R A D I O S P U R N
H E N C E P Y G M Y W H I T E S N I F T S H R E W
A B R I A B R I T R I G H T S H E U O A P H I S
S P R I G L O U I S W I T C H

When reduced to plain text this message reads:

"Harry cannot take goods now. Proceed 50 miles east Brit-
ton Island and give to Louis when he comes."

This message, as soon as it was reduced to English, was forwarded to
the Commander of the Gulf Division for action.

Constant evidence is received of the activity of the Coast Guard as a
result of such information as the foregoing. On August 26, the following
message was sent from Belize, British Honduras, to J. L. Kennedy, Galveston,
Texas:

F J E U W Z M W M Q J V W B L T U O Q U W W B J I
V D I M R O O W U M T C J Z M Q Y W M J C W D J M
P J Z B E J V M W J V W B L T U O E T B J I V D I
M R O O W U T Z W T Z W L Y S W V T M J C W Q T C
W M T Z W G M T

The plain text of the message reads:

C. M. LAWRENCE chased for three days by cutter COMANCHE. I came back and was chased for two days by cutter One One Five, so came home.

(Signed) Conexco (Consolidated Exporters Corporation).

On the other hand, there is also much evidence as to what might have been accomplished had the secret messages of the Blacks been known to the Coast Guard vessels at the proper time.

On September 21 to 23, 1930, a series of code messages passed between the BEAR CAT and JOHN MANNING, rum-runners, operating around New York, and a shore station. The plain text of this series was as follows:

JOHN MANNING: Our position now is 68 miles South Southeast Shinnecock Light. South twice, old man: take note of that position. Is cutter there yet? If cutter there yet, nothing doing old man.

BEAR CAT: Still being trailed by 125-footer but escaped cutter --- other friends, ha!

JOHN MANNING: Come out 40 miles South east Fire Island Light Ship.

JOHN MANNING TO SHORE STATION: BEAR CAT still being trailed by 125-footer. Told him go way out and try elude cutter.

The following day the vessel reports:

BEAR CAT: Am now 120 miles South South East Fire Island Lightship and still going. Advise.

SHORE STATION: Keep on going. Cutter not likely stay much longer.

The next day we follow their movements thus:

BEAR CAT: My position now over 200 miles South South East Fire Island Lightship. Advise.

At this point the Coast Guard vessel dropped the Black. If the contents of the foregoing messages had been known to the base to which the 125-footer belonged, the latter would certainly have been ordered to stay with

the Black indefinitely. But the Coast Guard ceased trailing, unaware that the Blake was acting under definite orders to go out to a distance great enough to convince the Coast Guard that she was continuing to sea. Having lost her picket the Black promptly returned to the rendezvous designated for two days previous and made contact.

One of the most conspicuous examples of the great value of the solution of secret messages, is the case of the IMALONE, the rum-runner sunk by the Coast Guard in the Gulf of Mexico in March, 1929. Now the Canadian Government has pressed charges against the United States for sinking a British vessel, claiming violation of international law, is now a matter of history. But what is not known, even to the Canadian Government, is the existence of a file of messages in enciphered code, turned over to the American authorities by this office, which show beyond doubt that the owner of the IMALONE was an American. This man is now awaiting trial in the United States Federal courts on civil charges; if he is convicted the arbitration of the IMALONE case will automatically collapse, and the United States will be extricated from the extremely embarrassing situation of attempting to prove a moot point of international law. Yet this American's identity was discovered only by means of the secret messages heretofore mentioned.

As can be seen from the foregoing, the achievements in the past have been well worth noting. These can be increased a hundred fold by a sufficiently staffed and thoroughly organized unit, such as is the subject of this memorandum. What has in the past been only of occasional benefit to the Coast Guard vessels operating against the Blacks, can and would become a daily factor, the importance of which cannot be overrated. At the present time each Coast Guard vessel travels thousands and thousands of miles annually in a blind search over a given area. In the future, under such a

plan as outlined, all such aimless activity could be ~~eliminated~~ and the mileage reduced to a very marked degree because the ~~source and~~ contact positions of any given run-runner would be known.

Fuel maintenance alone of one destroyer ~~amounts annually~~ to a sum thousands of dollars in excess of the total cost of operating this central unit. This central unit would, on the other hand, be the means of saving many thousands annually in fuel, not of one destroyer or patrol boat, but of every Coast Guard vessel engaged in the struggle against liquor smuggling.

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